

REMARKS

Claims 8-9 are cancelled and claims 5 and 7 are amended herein. Claims 1-5 and 7 are pending in the application.

The rejection based on Oki is respectfully traversed for the following reasons.

Oki generally teaches that a regeneration control is carried out over 2-stages. While the thermal deterioration of the catalyst is suppressed, the PM accumulated in the filter can be removed completely, so that the function of the filter can be prevented from being reduced over a long period of use. Oki, paragraph [0009]. In contrast, claim 1 (used as an example) recites that maximum-fuel-injection-quantity restricting means for restricting a maximum fuel injection quantity of the internal combustion engine when the quantity of the collected particulate matter estimated by the collected-quantity estimation means is greater than or equal to a predetermined judgment value for restriction, the maximum-fuel-injection-quantity restricting means restricting the maximum fuel injection quantity either during or not during the regenerating-mode operation. An advantage of this feature is that the maximum fuel injection quantity is restricted in a former-stage of regeneration control, whereby a large extent of increase in exhaust gas amount is avoided and thereby a continuous regeneration type DPF system from is prevented from deteriorating. See present paragraph [0014].

Furthermore, according to Oki, the predetermined first judgment value and also the predetermined second judgment value fail to relate to regeneration control, as discussed in further detail below. Thus, the judgment value for regeneration claimed in claim 1 more closely corresponds to the first predetermined condition according to Oki. Thus, Oki does not teach that the judgment value for restriction is smaller than the judgment value for regeneration, as claimed.

Specifically, as described in paragraph [0012] of Oki, "when the first predetermined condition is satisfied, the temperature of a filter raises with a filter temperature rise means and the deposited particulate matter carries out combustion loss in quantity". Thus, this control is a regeneration control. Also, as described in paragraph [0014], when the predetermined second condition was satisfied, the temperature of the filter was raised to the second predetermined temperature (e.g. 700°C), which is higher than the first predetermined temperature, whereby particulate matter can be completely burned and removed. Thus, this control is a regeneration

control.

Particularly, paragraph [0099] of the reference states that raising the temperature of the filter to the first predetermined temperature is referred to as ordinary (or normal) regeneration. Also, raising the temperature to the second predetermined temperature is referred to as intense regeneration. In view of this, it is evident that the two or the first and the second temperature-raising controls refer to a regeneration control.

As discussed in detail below, it cannot necessarily be said that the maximum fuel injection quantity during the temperature-raising control up to the first exhaust temperature is less than the fuel injection quantity during the temperature-raising control up to the second exhaust temperature.

Specifically, as described in paragraph [0011] of Oki, when the first predetermined condition is satisfied, the temperature of the filter is raised up to the first predetermined temperature and when the second predetermined condition is satisfied, the filter temperature is raised up to the second predetermined temperature. Thus, each temperature-raising control is not only in a temperature-maintaining control but also involves a temperature-raising control.

Also, in paragraph [0011], Oki states that the (time) interval in which the temperature is raised up to the second predetermined temperature is longer than the interval in which the temperature is raised up to the first predetermined temperature. Thus, it is conceivable that there may be an instance in which the velocity or rate of raising the temperature up to the second predetermined value is lower than the rate at which the temperature is raised up to the first predetermined value.

Still further, it is also conceivable that when the rotation number and the load on the engine are identical, the maximum fuel injection quantity is larger at a higher temperature-raising velocity or rate than at a lower one. Thus, Oki does not teach or suggest the maximum fuel injection quantity in the temperature-raising control up to the first predetermined temperature is smaller than the fuel injection quantity in the temperature-raising control up to the second predetermined temperature.

Generally, the fuel injection quantity of Oki is computed in accordance with the engine rotation number and the accelerator open degree at the given time. Oki, paragraphs [0090]. Thus, it is not necessary that through the two-time temperature-raising controls and the two-time

temperature-keeping controls, the engine rotation numbers and the accelerator open degrees agree with one another. Also the fuel injection quantity varies depending upon the engine rotation number and the load on the engine. Thus, this reference does not teach that the maximum fuel injection quantity through the temperature raising control up to the first exhaust temperature is always smaller than the fuel injection quantity through the temperature-raising control up to the second exhaust temperature. Instead, it is possible for that this relationship between the fuel injection quantities is reversed.

Still further, in Oki, the two-temperature-raising controls both come under a regeneration control. Accordingly Oki does not teach the claimed feature of restricting the maximum fuel injection quantity not during the regeneration-operation mode operation.


Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 10-18-06

By: 
Michael J. Badagliacca
Registration No. 39,099

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501